THE DOCTOR,

A Medical and Philosophical Penny Magazine.

"A WISE PHYSICIAN, SKILL'D OUR WOUNDS TO HEAL,
IS MORE THAN ARMIES TO THE PUBLIC WEAL."—*Pope's Homer.*

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HELLEBORUS NIGER. BLACK HELLEBORE; OR, CHRISTMAS ROSE.

CLASS, POLYANDRIA. ORDER, POLYGNIA.

THE root is perennial, rough, knotted, and externally of a black colour, internally whitish, sending off many strong round long fibres; the flower stalks are erect, round, tapering, and towards the bottom reddish; the bracteal leaves supply the place of the calyx, and are oval, concave, and generally indented at the top; the petals are five, large, roundish, spreading, at first of a white colour, succeeded by reddish tints, but finally putting on a greenish appearance; the nectaria are about eight in number, tubulated, somewhat compressed, bilabiated, and of a greenish-yellow colour; the filaments are white, the antheræ yellow; the germina vary commonly from four to eight, and the capsules, or pods, contain many oval shining blackish seeds; the leaves are compound,

divided in a peculiar manner, or pedated, and stand upon long radical footstalks; the simple leaf is elliptical, smooth, thick, and serrated towards the top. This plant is a native of Austria and Italy, and was unknown to the gardens in this country till cultivated by Mr. John Gerard in 1596. If the weather be sufficiently mild, it flowers in January, and hence the name of Christmas flower.

If any arguments were required to evince the necessity of botanical accuracy in discriminating medicinal plants, the Helleborus Niger would furnish us with many facts from which such arguments might be deduced. For many instances are recorded of the effects of this plant, by which it since appears that other plants were mistaken for it, and actually employed; of these we may enumerate the Helleborus viridis, Adonis, vernalis, Trollius Europæus, Actæa spicata, Ostrantia major, and Aconitum Napellus; and as the roots of these plants possess very different powers, we cannot be surprised that the medical history of this root is not only confused and contradictory, but calculated to produce very mischievous and even fatal consequences.

The taste of the fresh root is bitterish, and somewhat acrid, and according to Grew, "being chewed, and for some time retained upon the tongue, after a few minutes it seemeth to be benumbed and affected with a kind of paralytic stupor, or when it has been burnt with eating, or supping anything too hot." It also emits a nauseous acrid smell, but being long kept, both its sensible qualities and medicinal activity suffer very considerable diminution. Bergius has very properly attended to this circumstance, for in defining its virtues, he considers it under three different degrees of dryness:—"Virtus: *rec.* venenata, rubefaciens, vesicans; *recenter* siccatæ: emetica, purgans, emmenagoga, antiphthiriaca, sternutatoria; diu conservatæ: vix purgans, alterans, diuretica." Although many writers consider this root to be a perfectly innocent and safe medicine, yet we find several proofs of its poisonous effects, from which Murray collects the following symptoms:—Fateor, dispersas hinc inde extare observationes contrarias, querelas moveri de vomitionibus effrænis inde contractis, hypercatharsi, torminibus, anxietate, siti, singultu, animi diliquiis, sudoribus frigidis, faucium strangulatione, convulsionibus, sternutatione, torpore quodum artuum et insueta rigiditate, inflammatione ventriculi et intestinorum quin morte predissequa præviis variis dictis malis."

It seems to have been principally from its purgative quality that the ancients esteemed this root such a powerful remedy in maniacal disorders, with a view to evacuate the *atrabilis*, from which these mental diseases were supposed to be produced; but though evacuations be often found necessary in various cases of alienations of mind, yet as they can be procured with more certainty and safety by other medicines, this catholicon of antiquity is now almost entirely abandoned. At present it is looked upon chiefly as an alterative, and in this light is frequently employed in small doses for attenuating viscid humours, promoting the uterine and urinary discharges, and opening inveterate obstructions of the remoter glands; it often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual, or improper. It is also recommended in dropsies, and some cutaneous diseases. The watery extract of this root, made after the manner directed in the *Pharmacopœias*, is one of the best and safest preparations of it, when designed for a cathartic, as it contains both the purgative and diuretic parts of the Helleboro; it may be given in a dose from ten grains to a scruple, or more. A tincture of this drug is also ordered in the *Pharmacopœias*, which is preferred for the purposes of an alterative and deobstruent; of which a teaspoonful twice a day may be considered as a common dose.

GASTRITIS; OR, INFLAMMATION OF THE STOMACH.

This disease is divided into two species; the phlegmonous and erysipelatous; but it is the former which is here to be treated of; the latter arising chiefly towards the close of other diseases, marking the certain approach to dissolution, and being unaccompanied with any marks of general inflammation, or by any burning pain in the stomach.

Phlegmonous gastritis is produced by acid substances of various kinds, such as arsenic, oxymuriate of mercury, alkalies, the oxalic and mineral acids, &c. taken into the stomach; as likewise by food of an improper nature, by potations of spirituous liquors, by taking large draughts of any cold liquor when the body is much heated by exercise, dancing, &c.; by external violence from wounds, blows, &c.; and by repelled eruptions and gout. Besides these, it may arise from an inflammation of some of the neighbouring parts, as the liver, intestines, &c. extending to the stomach.

Phlegmonous gastritis is readily to be distinguished from any other disease by the burning pain, heat, and tension in the region of the stomach; by the aggravation of that pain when anything is swallowed, with the immediate rejection of it; and by the sudden and greater depression of strength in this than in any other inflammation. Indeed inflammation of the bowels is the only disease it can be confounded with; and from this it may easily be discerned by the seat of pain on pressure with the hand. Gastritis is a rare disorder, unless when arising from poisons.

The symptoms which attend it are, a violent burning pain in the region of the stomach, with great soreness, distention, and flatulency, a severe vomiting, especially after anything is swallowed, whether it be liquid or solid, most distressing thirst, restlessness, anxiety, and a continual tossing of the body, with great debility; constant watching, delirium, and a quick, hard, and contracted pulse, in some cases a severe purging attends.

If the disease increases in violence, symptoms of irritation then ensue; there is great loss of strength, with faintings, a short interrupted respiration, cold clammy sweats, hiccups, coldness of the extremities, an intermittent pulse; and the patient is soon cut off.

The event of gastritis is seldom favourable, as the person is usually either suddenly destroyed by the violence of the inflammation, or else it terminates quickly in suppuration, ulceration, or gangrene. Perhaps it may sometimes occasion scirrhosity of the pyloric or lower opening of the stomach.

If the symptoms are very mild, and proper medicines have been employed at an early period of the disease, it may terminate in resolution, and that in the course of the first, or, at farthest, the second week. The pulse becoming more soft and full about the fourth day, and diminishing in frequency; the pain gradually ceas-

ing; the urine depositing a sediment; or diarrhœa supervening; are to be regarded as favourable symptoms.

Its termination in suppuration may be known by the symptoms, although moderate, exceeding the continuance of eight or ten days, and a remission of pain occurring whilst a sense of weight and anxiety still remain; and on the formation of an abscess, cold shiverings ensue, with marked exacerbations in the evening, which are followed by night-sweats, and other symptoms of hectic fever; and these at length prove fatal, unless the pus is thrown up by vomiting, and the ulcer heals.

Its tendency to mortification may be dreaded from the violence of its symptoms not yielding to proper remedies early in the disease; and when begun, it may be known by the sudden sensation of the pain; by the pulse continuing its frequency, but becoming weaker, and by delirium, with other marks of increasing debility ensuing.

In consequence of previous inflammation, a scirrhosity of the pylorus is sometimes induced, but unfortunately we know of no symptoms which are characteristic of it. Nausea and vomiting soon after taking food and very obstinate costiveness are usually present. When it has ulcerated, and formed what is called cancer, there is generally an eructation of very fetid air, and a frequent vomiting of dark-coloured mucus which is offensive. The pain is constant, though varying in degree; it is increased by taking acrid or acid substances into the stomach; whereas mild fluids, such as milk, gruel, &c., occasion little or no uneasiness; and this circumstance may help to distinguish it from that pain which is occasioned by mere distention, for there the pain equally follows, whatever is the food taken.

Sometimes adhesions are formed between the stomach and neighbouring viscera.

Fatal cases of this disease show on dissection a considerable redness on the inner coat of the stomach, having a layer of coagulated lymph lining its surface. They likewise exhibit a partial thickening of the substance of the organ at the inflamed part, the inflammation seldom extending over the whole of it. Where ulceration has taken place, the ulcers sometimes are found to penetrate through all its coats, and sometimes only through one or two of them.

The cure of gastritis is to be attempted by copious and repeated bleedings, employed at an early period of the disease, not regarding, or being intimidated by, the smallness of the pulse, as it usually becomes softer and fuller after the operation; nor by extreme debility, syncope, or convulsions, for all these are the effects of the disease. Draw off the blood, therefore, every four or six hours, in such a quantity each time as the action of the heart will bear, and continue the practice as long as the characteristic symptoms of inflammatory disease remain. After venesection, topical bleeding, by means of several leeches over the stomach, or scarifying and cupping, may also be immediately adopted if necessary. A large blister may next be applied to the region of the stomach, and the cure be assisted by fomentations of the whole abdomen, as well as by the frequent administration of emollients and clysters. A warm-bath will prove highly beneficial. Pediluvia may also be used.

The irritable state of the stomach prevents any kind of medicine from being received into it; and it is only after the violence of the pain and frequency of vomiting are somewhat abated, that we can venture to administer opiates, even in the form of clysters. When the disease is in some measure subdued, opium may be given in this way.

To sheathe the stomach, particularly in those cases where the inflammation has been occasioned by any acrid matter received into it, we should advise the patient to take frequent small draughts of some mild diluent drink, such as chicken-broth, linseed-tea, or barley-water, in which may be dissolved a small quantity of gum-arabic.

When we know the nature of the offending matter, specific correctors may be thrown in: thus, when it is an alkali, vegetable acids, or the mineral ones properly diluted, should be given. When it is an acid, an alkali sufficiently diluted ought to be administered. If it is the oxymuriate of mercury or arsenic, the subcarbonate of potass properly diluted will be advisable. It has been discovered that gelatine when mixed with corrosive sublimate renders it innocuous. In all cases of poison by this drug, gelatine, either fresh or dry, ought therefore to be resorted to, and may be relied on.

In gastritis the antiphlogistic regimen should be observed with the greatest strictness respecting diet, both during the disease and for a considerable time afterwards; when the patient comes to be able to retain any kind of food, nothing must be given but what is of the lightest and most aperient nature. It should also be in a small quantity at first, and everything hard or acrid be avoided. The legs and feet ought at the same time to be kept warm, as the application of cold to them is apt to affect the stomach.

The tendency to suppuration is to be obviated by pursuing the steps which have been mentioned; and when it has actually taken place must be left to nature, only avoiding all irritation. To allay pain and irritability of the stomach, opium may be administered in small doses.

A gangrene is likewise to be obviated by the means which have been advised. When it takes place, it admits of no relief from medicine.

Where scirrhosity or cancerous ulceration of the pylorus has ensued, only a temporary relief can be expected. In the former, small doses of the submuriate of mercury, conjoined with hemlock, together with a milk diet, may be most proper; in the latter, opium, extract of henbane and hemlock, with a similar diet, may be tried.

MM. CHRESTIEN AND NIEL ON THE MEDICINAL EFFECTS OF PREPARATIONS OF GOLD.

Gold, says one of the reviewers of this work, "comme toutes les matières précieuses," has lately been introduced into the materia medica. M. Chrestien, of Montpelier, has been the most zealous of its patrons. He prescribes it, and he thinks with great effect, in syphilitic affections, both recent and inveterate; as well as in scrofula. Of the preparations which he employs, he has most confidence in the triple muriate of gold and of soda. This he introduces into the system by friction on the tongue, beginning with the very minute dose of the twelfth or fifteenth of a grain, augmenting the dose by a small fraction as the system will bear it. Great caution is required, for it is apt to prove unmanageable in very irritable constitutions, and our author alleges that the want

of attention to his cautions in this respect has been the cause of failure in the trials made of it by Baron Percy and others. According to M. Chrestien, the medicine disposes more or less slowly to evacuations, almost always preceded by a slight febrile state, indicated by increased heat, and frequent pulse. Gentle perspiration follows, with an increased flow of urine, of a particular character, and also, though less commonly, a salivation quite inodorous, and without any of the inconveniences of mercurial ptyalism. "Les guerisons," M. Ratier remarks, "que M. Chrestien à obtenues par son médicament ne prouvent rien, puisqu'il est démontré pour tout le monde que des symptômes vénériens primitifs se dissipent souvent d'eux-mêmes, ou avec de l'eau pure." On the same principle all remedies may be shown to be useless, provided we grant the fact which M. Ratier says is demonstrated to all the world. M. Ratier adds, "Je contesterai au muriate d'or la propriété *hilariante* que lui accorse le docteur Chrestien. Les individus qui étoient en proie aux inquiétudes, qu'entraine la maladie ont recouvré leur gaîté, lorsqu'ils ont eu leur guerison." So much for French criticism.

MEMOIRS OF THE MOST DISTINGUISHED MEDICAL MEN.

(*Continued from p.* 22.)

Dr. John Friend, the son of a clergyman, was born at Croton, in Northamptonshire, some time in the year 1675. After having passed some time at Westminster school under Dr. Busby, he was elected in 1690 to Christchurch College, Oxford; where, according to Nicholls, he directed the studies of Mr. Boyle, and wrote the examination of Dr. Bentley's Dissertation on Æsop, which exposed him to some severe remarks from that celebrated critic. He also, in conjunction with Foulkes, edited the Greek Oration of Æschines against Ctesiphon, with the reply of Demosthenes; and revised for the press the Delphine edition of Ovid's Metamorphoses.

In 1701, he took successively the degrees of M.A. and B.M.; and in 1703, published a work entitled Emmenologia, which passed through several editions, and was translated into the principal continental languages. In 1704, he became chemical professor at Oxford; and in the following year went to Spain, as physician to the English forces under the command of the Earl of Peterborough. He remained abroad for about two years, during which he visited Italy; and on his return, published a pamphlet in defence of Lord Peterborough's conduct. In 1707, he was created M.D. by diploma; and in 1709, printed nine chemical lectures; which being severely censured by the author of the Acta Eruditorum, who treated as fiction the Newtonian Philosophy, Friend published a Latin answer, defending its principles in the Philosophical Transactions.

In 1711, he was elected a fellow of the Royal Society; in the following year he accompanied the British troops to Flanders; and, in 1714, took up his abode in London, where he soon obtained the reputation of being one of the first physicians; and shortly afterwards published a work, entitled, Hypocratis de Morbis Popularibus, liber primus et tertius, his accommodavit Novem de Febribus Commentariis John Friend, M.D. In this work he displayed great erudition, and a profound acquaintance with the works of Hippocrates, whose practice he accurately detailed, and of whose principles he avowed himself a zealous advocate. Having in the Commentaries made some remarks relative to the efficacy of purgative medicines in the secondary fever of confluent small-pox, he was attacked by Dr. Woodward, in a treatise, entitled, The State of Physic and Diseases; to which he published a ludicrous reply under the name of one Byfield, a noted quack. In 1717, he read the Gulstonian lecture; and in 1719, printed a letter, addressed to Dr. Mead, entitled, De Purgantibus in Secunda Variorilum Confluentium Febre adhibendis, which appears to have greatly increased his reputation.

In 1720, he delivered the Harveian oration; and, in 1722, became member of parliament for Launceston. In the House of Commons, he displayed considerable hostility to Walpole; and on the impeachment of Atterbury, advocated the cause of that prelate with so much warmth, that during the suspension of the Habeas-corpus Act, he was charged with treasonable designs, and committed to the Tower. After a confinement of three months, his friend Dr. Mead procured his enlargement, on bail; whose recognizances were shortly afterwards discharged. While in the Tower, he produced an Epistle to Dr. Mead, entitled, De quibusdam Variolarum generibus; and formed the plan of his celebrated History of Physic, from the time of Galen to the sixteenth century, chiefly with regard to Practice; the first part of which was published in 1725, and the second in 1726. This work was suggested by, and intended as a supplement to, Daniel Le Clerc's Histoire de la Médecine. It met with much approbation; but did not wholly escape censure, a pamphlet being published, in which the author was charged with misrepresentation of facts; and an article being printed, in the Bibliothèque Ancienne et Moderne, in defence of Daniel Le Clerc, whom he had accused of committing numerous errors, a controversy ensued; which, however, appears to have terminated in favour of Friend.

Soon after his liberation from the Tower, he had been made physician to the Prince of Wales; on whose accession to the throne he became physician to the Queen. He did not, however, long enjoy this appointment, his death occurring on the 26th of July, 1728. He was buried in Westminster Abbey, where a monument with a Latin inscription was erected to his memory, and, among numerous other tributes to his skill, the following lines, from the pen of Samuel Wesley, were presented to the public:—

> "When Radcliffe fell, afflicted Physic cried,
> 'How vain my power!' and languished at his side,
> When Friend expired, deep-struck, her hair she tore;
> And speechless, fainted, and revived no more.
> Her flowing grief no farther could extend.
> She mourns with Ratcliffe, but she dies with Friend."

The king and queen are said to have sincerely regretted his loss, and to have settled a pension on his widow. His favourable reception at court, at the latter part of his life, induced many to suppose that he had sacrificed his political opinions to his interest. "Dr. John Friend," says Morris, in a letter, dated June 1728, "is a very assiduous courtier; and must grow so, more and more, every day, since his *quondam* friends and acquaintances shun and despise him; and whenever he happens to fall in the way of them, he looks, methinks, very sillily." Bishop Atterbury, however, when in exile, observed of him, "I dare say, notwithstanding his station

at court, he died with the same political opinions with which I left him. He is lamented by men of all parties," continued the bishop, "for he was known everywhere, and confessed to be at the head of his faculty." Sir Edward Wilmot, in delivering the Harveian oration in 1573, described him as a deep philosopher, a learned physician, an elegant writer, and an ornament to society; as being very honest and humane, ever desirous of doing good, and of communicating knowledge to the utmost extent of his power. As a physician, he was held in high estimation, both at home and abroad. Hoffman, Helvetius, Herquet, Boerhaave, and other eminent foreigners, bestowed great praise upon his extraordinary talents. "The reputation of Dr. Friend as a physician," says Morris, the writer before quoted, as to his alleged change of political principles, is greatly raised by Lord Townshend's recovery after the Whig doctors, particularly Hulse, declared that his lordship must die, if he followed the course Dr. Friend was for taking with him. But his lordship declared he would live or die by the hands of Friend; and so Hulse took his leave, and his lordship is, contrary to most people's expectations, past all danger."

A collection of his works in Latin, with an account of his life prefixed, by Wigan, was published in London, a few years after his death, and subsequently reprinted at Paris.

A CONCISE VIEW OF THE WHOLE ANIMAL ECONOMY.

(*Continued from p.* 2.)

The *glands* are an assemblage of tortuous vessels, complicated with *seeming* confusion, yet perfectly regular. We cannot as yet penetrate into the mystery of secretion; all that we know is, that those fluids said to be *secreted* are not *absolutely contained within the blood*, any more than the *peach, nectarine*, or other *fruits*, are principles *filtered* from the earth and water, which nourish the tree. Nevertheless as the "seven notes of music differently combined, and the twenty-four letters, form the whole of harmony and language," so may all these fluids arise from the change or combination of primitive parts by a machinery that no chemist may ever be able perfectly to imitate. We know that the *liver* secretes *bile*, the *kidneys urine*, the *glands* of the eyes *tears*, the little *follicles* of the inner membrane of the *bowels mucus*, the glands about the mouth saliva, and very many other peculiar actions of different parts in the animal machine possess their peculiar functions, all of which are derived from one common source, *the blood*. But how can human knowledge explain the *whys* and the *wherefores*? There is in *animal life*, both in structure and function, such a complication of *excellences* that when the mind of the greatest philosopher contemplates upon them, he is lost in *wonder*, and can only reconcile his perturbed imagination by referring all these *marvellous excellences* to the *infinite wisdom* OF OUR CREATOR. We have *nerves*, which shoot out their fibres from the brain, and when remote from their source are *surprisingly minute*, which set the *muscles to work* at the command of the will, and diffuse *sensation* throughout the body, and upon any impression from without give *all needful intelligence* to the soul. We have *membranes* composed of the *finest fibriles*, yet endued with *incredible strength*; fashioned after a *variety* of patterns, but all in the highest state for elegance and use. These execute their functions as quick as *lightning*. Were we to remove mountains, we could not be more astonished than that this arm, these fingers, should obey the order of the will.

To turn the screw, or work the lever, is laborious and wearisome. But we work the vertebræ of the neck with all their appendant parts; we advance the leg with the whole incumbent body. We rise, we spring from the ground; and though so great a weight is raised, we meet with no difficulty or fatigue.

That all this should be effected without any toil, by a *bare act of the will*, is very surprising. But that it *should be done*, even *while* we are *entirely ignorant* of the *manner in which it is performed*, is most astonishing!

Who can play a single tune on the piano, without hearing the difference of the keys? Yet *the mind* touches *every spring* of the human machine with the most masterly skill, though she knows nothing at all of the nature of her instrument, or the process of her operation. More than two hundred reins are put into her hands; yet she manages all, conducts all, without the least perplexity or irregularity. Rather with a promptitude, a consistency and speed, that nothing else can equal!

We have *fat*, an *unctuous fluid* contained in (what we term) *vesicles*, which have the appearance, if viewed through a microscope, of a cluster of grapes. This *flanks* and *fortifies* our muscles like a strong bastion; *supports* and *warms* them like a soft pillow. In other places they fill up the vacuities and *smooth* the irregularities of the flesh. *Inwardly*, they supply the machine for motion; *outwardly* they render it smooth and graceful.

(*To be continued.*)

CURE FOR WARTS.

Pyroligneous acid, applied night and morning, will be found a safe and infallible remedy. This acid being so frequently diluted, it is necessary to suggest the propriety of procuring it from a respectable shop. This acid when diluted is in use in certain domestic preparations, under the name of distilled vinegar. This latter article as formerly produced by being drawn over in a still, is now almost wholly abandoned in consequence of finding that one part of pyroligneous acid diluted with six parts of water produces an article infinitely more pure and possessing all the properties of distilled vinegar as formerly produced, and is now the article almost universally given in shops when distilled vinegar is asked for.

QUINSEY

Being now somewhat prevalent, the following gargle is strongly recommended:

Take of Port-wine and Vinegar, of each one wine-glassful.
Water two glassfuls.
Honey, one tablespoonful. Mix.

To be used frequently in the course of the day. This receipt has been previously given in the pages of this Magazine; but a good remedy cannot be too often brought before the public.

FOR BLEEDINGS OF THE NOSE, WHEN PROFUSE.

Use as snuff, Charcoal-powder, and it will seldom fail to stem the effusion of blood.

NATURAL HISTORY OF BISMUTH.

Bismuth is found in the earth in very few different states, more generally native or in the metallic state. *Native* bismuth is met with in solid masses, and also in small particles dispersed in and frequently deposited on different stones, at Schneeberg, in Saxony, Sweden, &c. Sometimes it is crystallized in four-sided tables, or indistinct cubes. It exists combined with oxygen in the *oxid of bismuth* (*bismuth ochre*), found in small particles, dispersed, of a bluish, or yellowish-gray colour, needle-shaped and capillary; sometimes laminated, forming small cells. It is also, though more seldom, united to sulphur and iron, in the form of a sulphuret, in the *martial sulphurated bismuth of ore*. This ore has a yellowish-gray appearance, resembling somewhat the martial pyrites. And it is sometimes combined with arsenic.

Properties of Bismuth.

Bismuth is of a silver-white colour inclining to red. It soon tarnishes and becomes irridescent. It is brittle, and can easily be reduced to small particles. It is soft enough to be cut with a knife. It has a lamellated texture. Its specific gravity is 9.800. It requires less heat for fusion than any other metal, tin excepted, melting by a heat 460° Fahr. It can be volatilized by heat, and escapes in the state of grayish-white vapour. It readily unites with mercury and with sulphur. When fused, it exhibits, on cooling, cubical figures on the surface. It is soluble in sulphuric, nitric, and muriatic acids. The solution in nitric acid is decomposable by mere dilution with pure water. It inflames in oxygenated muriatic acid gas. It is capable of combining the greatest number of the metals; and when in certain proportions, promotes their fusibility remarkably. It speedily becomes black by sulphurated hydrogen gas.

Method of obtaining Bismuth.

To obtain bismuth from its ore, nothing more is necessary than to fuse the ore with an eighth part of white flux in a well-closed vessel. The metal obtained by this process, however, is far from being in a pure state. It forms the bismuth of commerce.

In order to purify it, let it be powdered, and dissolve it in pure nitric acid and precipitate it, by adding water to the solution. Collect the precipitate on a filter, form it into a paste with oil, and rapidly fuse it with black flux in a closed crucible.

Experimental Proofs of the Properties of Bismuth.

Experiment 1.

Nitric acid dissolves bismuth with great rapidity. Put some nitric acid into a Florence flask, or common phial, and gradually add to it bismuth broken into small pieces till no more dissolves, then filter the solution, when evaporated and suffered to crystallize slowly, it furnishes a white and exceedingly brilliant salt, which is *nitrate* of bismuth.

It is remarkable, that if this metallic salt be dissolved in pure water, it renders it white and milky, which is a criterion to distinguish this from other metals. The precipitate which is thus formed, is called *white oxid* of *bismuth*, and is sold to perfumers under the name of *pearl-white*.

Experiment 2.

Preparation of white oxid of bismuth.—Dissolve bismuth in pure nitric acid, diluted with an equal quantity of water. Let the solution stand undisturbed till it becomes perfectly transparent, then add a large quantity of distilled water; a precipitate will instantly be formed. When this has subsided, decant the super-natant fluid, and wash the white powder repeatedly in distilled water till it passes tasteless, then suffer it to dry spontaneously in the dark, and keep it in a glass bottle.

Remark.

This oxid is used as a cosmetic for whitening the skin, but it is attended with this inconvenience, that it becomes black by coming into contact with fetid substances, &c. The eating of boiled eggs is capable of producing this effect. It is thought, and perhaps with reason, that this paint gradually impairs the skin. The liberal use of *any* paint for the skin seems likely to do this; but have we not reason to suspect, from the deleterious effects of this metal on the animal economy, that the liberal use of the oxid of this metal may be attended with effects similar to those which the oxids of lead are known to produce?

Experiment 3.

Combination of bismuth with phosphorus.—Fuse bismuth in a crucible, and let fall upon it gradually small pieces of phosphorus. On removing the crucible from the fire, the phosphuret of bismuth will be found adhering strongly to the crucible. Sulphuret of bismuth may easily be obtained by melting sulphur and bismuth together.

The union of bismuth with metals is not attended with any difficulty.

Experiment 4.

Oxid of bismuth decomposes muriate of ammonia by heat.—Mix together one part of oxid of bismuth, and two of muriate of ammonia, put the mixture into a glass retort, furnished with a receiver containing a little water, and proceed to distillation. Ammonia will pass over and be absorbed by the water in the receiver, and a little oxid of bismuth, mixed with undecomposed muriate of ammonia, will rise and attach itself to the neck of the retort. The remainder, in the retort, is a combination of the metallic oxid with muriatic acid, called *muriate of bismuth*.

Analysis of ores of bismuth.—Ore of bismuth and bismuth ochre are very easily examined. The ore called native bismuth may be analyzed by treating it repeatedly with nitric acid assisted by heat. On adding water to the clear solution, the bismuth becomes precipitated in the form of a white powder. If the whole should not be precipitated at first, the solution should be concentrated by evaporation; then a second effusion of water will precipitate the remainder. This precipitate formed into a paste with a few drops of oil, and rapidly fused with black flux, gives a button of bismuth.

The rest of the ores of bismuth may be analyzed in a similar manner. The sulphur which they contain will not be acted upon by the nitric acid; it will therefore be left behind, and may be separated by filtration.

When Mrs. Baddeley, the singer, was once confined for debt at a lock-up house in Southampton-buildings, she sang so sweetly that she sang herself out of her cage; but her keeper soon found the fatal effects of the syren's voice, and was immured himself. Being asked by a fellow-prisoner in the Bench what business he had there, "Faith," he replied, "I had no *business*, I came here for *pleasure*."

AN ALPHABETICAL TABLE OF THE DOSES OF MEDICINES AND DRUGS, WITH REMARKS ON THEIR EFFECTS, DISORDERS FOR WHICH THEY ARE USUALLY PRESCRIBED, AND PRICES ATTACHED TO EACH.

(*Continued from p.* 21.)

Hydrargyri cum Sulph., Sulphuret of Mercury, or Æthiops Mineral, from five grains to a dram; an exceedingly useful spring and autumn medicine for children, combined with the milk of sulphur and honey, or treacle, taken every night for a fortnight, 4d. per ounce.

Hydrargyri Purif., Pure Quicksilver, from twenty grains to two ounces, indeed a *pound* has been taken for a dose without producing any ill consequences; it was supposed in olden times to be an infallible remedy for "risings of the lights," meaning of course the lungs; likewise for "twistings" and obstinate obstructions in the bowels; it is, however, wholly useless in its natural state for the above or any other disease; 2½d. per ounce.

Hydrargyri Sulphuretum Rubrum, Red Sulphuret of Mercury, or Vermilion. See Cinnab. Antim. Præcipitat. in No. 128.

Hydrargyri cum Cretâ, Chalk with Quicksilver, from two to twenty grains; it is said by some to be nearly inert, while others praise it as an alterative in disorders of the prostate, in obstinate cases of syphilis, in tabes mesenterica, and certain forms of dysentery; it is a decidedly useful medicine in disorders of the digestive organs in children, especially while teething, or giving evidence of enlarged mesenteric glands; never asked for retail.

Hydrargyrum Præcipitatum Album, White Precipitate of Mercury, is never used as a medicine, but only in conjunction with lard, or the like, in the form of an ointment, to destroy vermin, its effects in which are certain, and it is a safe application, 2d. per dram.

Hydrargyrum Submurias, Submuriate of Mercury, or Calomel, from one grain to twenty, but the latter only in *very extraordinary cases*. It is worthy of remark, that adults cannot bear such large doses as children, and smaller doses often irritate more than large ones. An invaluable medicine as an alterative, and in many obstructions of the liver; and when combined with vegetable extracts such as rhubarb, jalap, and bitter apple, materially contributes to their purgative qualities; combined with lime-water in the proportion of half a dram to two ounces, forms the *black wash*; 2d. per dram.

Hydriodas Potassæ, Hydriodate of Potash, from one to three grains twice or thrice daily; a new medicine, and exceedingly useful in glandular affections, more especially those arising in scrofulous habits, it is also used locally as an ointment by combining half a dram of the hydriodate with one ounce and a half of spermaceti ointment, a small portion of which to be rubbed on indolent tumours night and morning; 8d. per dram.

Infusum Calumbæ, Infusion of Calumba. It is a good non-irritating tonic in doses of from one to two ounces daily, for indigestion, and nausea in pregnancy; it is peculiarly useful, but seldom asked for retail.

Infusum Rosæ, Infusion of Roses, it is an elegant cooling tonic, but is seldom used alone, but forms a good vehicle for sulphate of Quinine, Epsom salts, and the bitter tinctures and infusions, it is likewise often used in hectic fever, and inflammatory disorders, 1½d. per ounce.

Infusum Cascarillæ, Infusion of Cascarilla, properties similar to Calumba.

Infusum Rhæi, Infusion of Rhubarb; it is a weakish preparation of Rhubarb, though a very convenient form when combined with aromatic tinctures, in chronic diarrhœa, costiveness, and indigestion. It is slightly aperient and stomachic, from one to two ounces once or twice daily; 1d. per ounce.

Infusum Sennæ Comp., Compound Infusion of Senna; it is called *compound* in consequence of ginger being added to the senna, which materially lessens the griping effects of the senna, and it is an excellent purgative, with Epsom salts. It should always be made fresh for every dose, as it deposits its active principle when it stands only for a few hours, unless Epsom salts be dissolved in it, when it may be kept good for several days, dose from half an ounce to two ounces, but rarely asked for retail.

Jalapæ, Jalap, is a powerful and safe cathartic, but it sometimes gripes violently by its stimulating the colon, it should therefore always be combined with some aromatic; from ten grains to half a dram, 8d. per ounce. It is frequently adulterated with briony root.

Lichen Islandicus, Iceland Moss, or Liverwort; an infusion of this herb is frequently very serviceable in affection of the chest attended with cough and shortness of breath, dose from one to six ounces; 4d. per ounce.

Linimentum Saponis, Soap Liniment, or Opodeldoc, a very useful application for bruises and sprains, and likewise in dropsical swellings of the feet, 4d. per ounce.

Liquor Ammoniæ Acetatis, Spirit of Mindererus; this has been long used internally in febrile affections, its effects being directed to the perspiratory vessels, combined with sweet spirits of nitre, a valuable diaphoretic is produced; it is likewise, when combined with about a fourth part of spirits of wine, an excellent application for acute inflammation on the surface of the body, by keeping lint or linen rag constantly moistened with the same; 1s. per pint.

Liquor Plumbi Subacetatis, Goulard's Extract, never used alone, and when as a lotion diluted with from ten to twenty parts of distilled water; it is employed as a cooling and astringent external application to inflamed surfaces and old ulcers, and sometimes as an eye water in purulent ophthalmia; from five to ten drops combined with spermaceti ointment forms an excellent ointment for burns, scalds, &c.; 3d. per ounce.

Lupuline, says Rennie, is "a chemical principle discovered by Dr. Ives of New York, in the form of small shining yellowish grains, covering the base of the scales in the hop, it is very bitter, and contains the active properties of the hop, it is quite a new medicine." The conductors of this Magazine are the only persons at present who obtain this inestimable medicine in a perfectly pure state, it forms the basis of *The Doctor's Balsam of Lupuline*.

CAUSE OF GRAY HAIR.

"Some hypotheticals, among whom is a modern periodical, confidently assert that the cause of gray hair is a contraction of the skin about the roots of it, and from this cause suppose that polar animals become white, the cold operating as the contracting power. If this argument were true, we should be all gray if we happened to be exposed to a hard frost! There are fewer gray people in Russia than in Italy or Arabia; for the Russians having more generally light-coloured hair, do not so often or so soon feel the effects of the grizzly fiend as

those whose hair isblack or dark. Cold, therefore, is nonsense; it assuredly cannot be contraction at the roots of the hairs. Has not the hair of individuals labouring under certain passions become gray in one night? Were these suffering from cold? rather, were they not burning with internal feeling? sudden fright has caused the hair to turn gray; but this, as well as any other remote cause, can be freed from the idea of operating by cold or by contraction.

Our opinion is, that the *vis vitæ* is lessened in the extreme ramifications of those almost imperceptible vessels destined to supply the hair with colouring fluid. The vessels which secrete this fluid cease to act, or else the absorbent vessels take it away faster than it is furnished. This reason will bear argument; for grief, debility, fright, fever, and age, all have the effect of lessening the power of the extreme vessels. It may be said in argument against this opinion, that if the body be again invigorated, the vessels ought, according to our reasoning, to secrete again the colouring fluid; but to this we say, that the vessels which secrete this fluid are so very minute, that upon their ceasing their functions they become obliterated, and nothing can ever restore them."

THE WEATHER.

Our predictions are verified in great part; for the late rains and subsequent hot weather have given rise to malignant disease. *Typhus* fever now prevails, and we regret to add that Cholera is appearing again. Three genuine cases the Editor has seen this day, 18th instant, and more are expected, unless a change in the condition of the atmosphere takes place. It is to be sincerely hoped that the present season will not pass over without the clouds discharge their overloaded quantum of electric fluid, accompanied by *torrents* of rain; for unless that takes place, we know not what may be the result. This day the air conveys to the organs of scent a strong sulphurous admixture, clearly proving that the clouds are charged with electric matter in a *positive* degree, or what our learned readers would prefer, *plus*. The clouds silently, or passively, as it were, unload themselves, and the earth of course must do the same, to restore a partial equilibrium between the two. Hence the sulphurous smell of the air. But a *convulsive* action (if we may be allowed the term) must take place before the condition of our atmosphere be brought to a wholesome state suited to the economy of the animal kingdom. We wish not to be alarmists, but our candour is of course looked for, in conformity to which the opinion just given is advanced. *Readers*, look to your digestive organs, the condition of your liver; enough we hope has been said upon these important points to require in this place a recapitulation. You know that our medicine can be procured in almost every principal town in the kingdom; to meet these conditions, there are *The Doctor's Stomach Pills*, and the *Probilious Pills*, especially recommended for the liver, the functions of which the present state of the atmosphere is so certain to disturb. You have placed before you *The Doctor's Pectoral Pills* for diseases of the lungs, a certain result of a neglected condition of the *liver*. And last not *least* in our estimation you have *The Doctor's Balsam of Lupuline* for nervous affections, which always result from disease or disorder. Thus are we alive to effect all the good to our fellow-creatures which our unwearied exertions can realize. Your diet must be looked to; your habits in drink, temperate; your exercise regular; nay, in these respects follow the advice so frequently given in the pages of this Magazine, and *The Doctor's* medicine chest may soon be closed.

REMARKS ON SNUFF-TAKING.

With reference to a paper published a short time since by Dr. Kinglake, Dr. K. says, "There is much reason for believing that the ever-memorable Napoleon Bonaparte derived the cause of his protracted suffering and eventual death from the large quantities of snuff which he lavishly, but unconsciously, carried into his stomach through the nostrils, by the habit of strong and unmeasured inspiration with which he used that destructive agent." Now, we do not think that there is any reason for believing that the small quantity of snuff which finds its way into the centre of sympathy is sufficient to produce those cancerous appearances which were evident in the case alluded to. As the ingenious doctor, who rides his hobby so hard, will no doubt ask us the following question, we beg leave to anticipate it. "If tobacco did not occasion the disease in question, what was the true cause of it?" We answer, that anxiety was the exciting cause, and that Napoleon died of what is generally called a broken heart; but more properly a broken-up stomach. Everybody knows that a few hours grief will derange the digestive organs more than a month's indulgence in snuff-taking; and every surgeon must be aware that distress of mind, where there is a predisposition to scirrhus or cancer, excites these baneful diseases, and a late writer on this subject states that, "during my studies at the Borough hospital, I observed that the first question that Sir A. Cooper put to those afflicted with organic disease of the stomach, was concerning their late state of mind; and I may say that during three years, I always noted the answer to be this, 'Previous to the appearance of this disease, I suffered considerable mental affliction.'" Dr. K. forgot to tell us, also, that Bonaparte drank more coffee than any other man in Europe. We contend that the free use of this beverage was a sufficient antidote for the tobacco; but we will not say that the immoderate use of it, when the mind was constantly in a state of great excitation, did not aggravate that disease which deprived the world of the greatest hero ever known.

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